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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/730,374

12/08/2003

Michael Bothe

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07/17/2006

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EXAMINER

KIM, PAUL D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,374

Applicant(s)

BOTHE ET AL.

Examiner

Paul D. Kim

Art Unit

3729

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6, 7 and 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a response to the restriction requirement filed on 5/5/2006.

Response to the Restriction Requirement

1. Applicant's election with traverse of Linking D, claims 1, 5 and 8-10, in the reply filed on 5/5/2006 is acknowledged. The traversal is on the ground that there will be no serious burden if the restriction is withdrawn. This is not found persuasive because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement mailed on 3/14/2006, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The requirement is still deemed proper and is therefore **made FINAL**.

2. Claims 2-4, 6, 7 and 11-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/5/2006.

Specification

3. The abstract of the disclosure is objected to because the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claims 1, 5 and 8-10 are objected to because of the following informalities:

Re. Claim 1: After the phrase "said circuit carrier;" in line 8, insert --and--.

Re. Claim 9: The phrase "recesses" in line 2 appears to be --the at least one recess--.

Re. Claim 10: The phrase "said recesses are" in lines 5 and 6 appears to be --the at least one recess is--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 5, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bujatti et al. (US PAT. 4,925,723).

Bujatti et al. teaches a process of forming an integrated circuit comprising steps of: providing a circuit carrier (22), at least one recess (21) being created for a passive element (such as resistor (14 in Fig. 1), as per claim 5) as shown in Fig. 2A; introducing

an electrically functional material (29) in a raw state (equivalent with a paste) into the recess of the circuit carrier a shown in Fig. 2C; and converting the electrically functional material from the raw state into a final state by supplying energy (equivalent with curing) (see also col. 2, line 37 to col. 4, line 19).

Re. Claim 5: The passive component is the resistor (14 as shown in Fig. 1) and the electrically functional material (gold) in the raw state being the paste has a given specific resistance.

Re. Claim 8: At least one conductor track structure (13 in Fig. 1) for electrically contacting the electrically functional material such as gold.

Re. Claim 9: The at least one recess is formed by machining such as drilling.

7. Claims 1, 5, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Berger et al. (US PAT. 6,528,145).

Berger et al. teaches a process of forming an electronic substrate comprising steps of: providing a circuit carrier (12), at least one recess (14) being created for a passive element (such as resistor, as per claim 5) as shown in Fig. 1; introducing an electrically functional material (14) in a raw state (equivalent with a metallic paste) into the recess of the circuit carrier a shown in Fig. 1; and converting the electrically functional material from the raw state into a final state by supplying energy (equivalent with drying) (see also col. 12, line 29 to col. 13, line 24).

Re. Claim 8: At least one conductor track structure (16 in Fig. 1) for electrically contacting the electrically functional material.

Re. Claim 9: The at least one recess is formed by machining such as punching, drilling or etching.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Bujatti et al. or Berger et al. in view of Malwah (US PAT. 4,398,964).

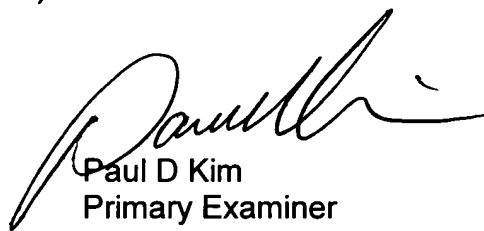
Either Bujatti et al. or Berger et al. teach all of the limitations as set forth above. However, either Bujatti et al. or Berger et al. fail to teach a process of providing a layer having openings to form the at least one recess. In the manufacturing the printed circuit board, a process of forming at least one hole or recess by using a mask (or a layer having openings) is well known in the art. Furthermore, Malwah teaches a process of forming at least one recess (24 as shown in Fig. 5) by using a mask (14 as shown in Fig. 4) in order to form the desired recess or hole in the predetermined location. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of forming at least one recess of either Bujatti et al. or Berger et al. by using a mask as taught by Malwah in order to form the desired recess or hole in the predetermined location.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 6:00 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul D Kim
Primary Examiner
Art Unit 3729